

DNREC SIRS		SG-MW01-1114			SG-MW02-1114			SG-MW03-1114			SG-MW04-1114		
Screening Levels		460-86962-27			460-86962-28			460-86962-29			460-86962-30		
Groundwater		11/21/2014 09:00:00			11/21/2014 10:30:00			11/21/2014 11:20:00:00			11/21/2014 13:30:00		
July 2014		Water			Water			Water			Water		
CAS#	ug/l	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
7440-09-7	NA	2950	J	281	1780	J	281	5010	J	281	3350	J	281
7440-09-7	NA	3100	J	281	1820	J	281	5140	J	281	3390	J	281
7782-49-2	10	6.7	U	6.7	6.7	U	6.7	6.7	U	6.7	6.7	U	6.7
7782-49-2	10	6.7	U	6.7	6.7	U	6.7	6.7	U	6.7	6.7	U	6.7
7440-22-4	9.4	1.9	U	1.9	1.9	U	1.9	1.9	U	1.9	1.9	U	1.9
7440-22-4	9.4	1.9	U	1.9	1.9	U	1.9	1.9	U	1.9	1.9	U	1.9
7440-23-5	NA	74900	514	5060	514	6690	514	17400	514	17400	514	4980	J
7440-23-5	NA	81500	514	5080	514	7140	514	17300	514	17300	514	5270	J
7440-28-0	0.02	9.2	U	9.2	9.2	U	9.2	9.2	U	9.2	9.2	U	9.2
7440-28-0	0.02	9.2	U	9.2	9.2	U	9.2	9.2	U	9.2	9.2	U	9.2
7440-62-2	8.6	4.2	U	4.2	4.2	U	4.2	4.2	U	4.2	4.2	U	4.2
7440-62-2	8.6	4.2	U	4.2	4.2	U	4.2	4.2	U	4.2	4.2	U	4.2
7440-66-6	600	12.2	J	5.9	5.9	U	5.9	30.0	J	5.9	20.2	J	5.9
7440-66-6	600	13.6	J	5.9	5.9	U	5.9	21.0	J	5.9	17.8	J	5.9
7439-97-6	0.063	0.30		0.16	0.16	U	0.16	0.20		0.16	0.16	U	0.16
7439-97-6	0.063	0.18	J	0.16	0.16	U	0.16	0.16	U	0.16	0.16	U	0.16

Id type face exceed DNREC SL  
 than or equal to the MDL and the concentration is an approximate value.  
 > or not detected.

## **APPENDIX C**

### **Sampling and Analysis Plan**

## Proposed Sampling and Analyses Plan for Seaford Town Gas Site (DE-0061)

### 1.0 Proposed Sampling and Analyses Plan Table

Sampling Matrix	Locations, depths and number of Samples	Sample Collection Methodology	DNREC-SIRS Lab Screening	HSCA Laboratory Analysis	Comments/Justification
<b>Surface soil (0 to 2 feet, “shallow”)</b>	<p>Approximately eight shallow grab soil samples will be collected from eight soil borings within the two feet of the existing ground surface.</p> <p><i>Operations Methods.</i> One (1) set of QA/QC samples will be collected per batch of samples (i.e. 20 samples or less). This will include a matrix spike, a matrix spike duplicate, and a duplicate. For each day of soil sampling, one lab-prepared trip blank will be submitted with samples.</p>	<p>Samples will be collected in accordance with DNREC-SIRS Standard Operating Procedures (SOP) for Surface Soil. USEPA, 1987, <i>A Compendium of Superfund Field Operations Methods</i>.</p>	<p>Samples are proposed to be screened by Test America Laboratories, Inc. for the following:</p> <ul style="list-style-type: none"> <li>• TCL VOCs,</li> <li>• TCL SVOCs,</li> <li>• TCL Pesticides</li> <li>• TCL PCBs; and</li> <li>• TAL Metals.</li> </ul>	<p>Up to four selected samples will be analyzed in accordance with DNREC, 2008, “<u>Standard Operating Procedures for Chemical Analytical Programs under the Hazardous Substance Cleanup Act</u>” (SOPCAP), Version 5.0 Rev. 7.</p> <p>Soil samples that are submitted to Test America will be analyzed using EPA SW-846 methodologies for all or part of the following:</p> <ul style="list-style-type: none"> <li>- TCL VOCs,</li> <li>- TCL SVOCs,</li> <li>- TCL Pesticides</li> <li>- PCB Homologs; and</li> <li>- TAL Metals.</li> </ul>	

Sampling Matrix	Locations, depths and number of Samples	Sample Collection Methodology	DNREC-SIRS Lab Screening	HSCA Laboratory Analysis	Comments/Justification
Subsurface Soil (>2 feet, "deep")	Approximately eight deep grab soil samples will be collected from eight soil borings within the two feet of the existing groundwater table or in the area exhibiting the greatest environmental impact (i.e., high PID, staining, odors).	<p>Samples will be collected in accordance with DNREC-SIRS Standard Operating Procedures (SOP) for Subsurface Soil.</p> <p>USEPA, 1987, <i>A Compendium of Superfund Field Operations Methods</i>.</p>	<p>Samples are proposed to be screened by Test America Laboratories, Inc. for the following:</p> <ul style="list-style-type: none"> <li>• TCL VOCs,</li> <li>• TCL SVOCs,</li> <li>• TCL Pesticides</li> <li>• TCL PCBs;</li> <li>• TAL Metals.</li> </ul>	<p>Up to four selected samples will be analyzed in accordance with DNREC, 2008, "<u>Standard Operating Procedures for Chemical Analytical Programs under the Hazardous Substance Cleanup Act</u>" (SOPCAP), Version 5.0 Rev. 7.</p> <p>Soil samples that are submitted to Test America will be analyzed using EPA SW-846 methodologies for all or part of the following:</p> <ul style="list-style-type: none"> <li>- TCL VOCs,</li> <li>- TCL SVOCs,</li> <li>- TCL Pesticides</li> <li>- PCB Homologs; and</li> <li>- TAL Metals.</li> </ul>	<p>One (1) set of QA/QC samples will be collected per batch of samples (i.e. 20 samples or less). This will include a matrix spike, a matrix spike duplicate, and a duplicate. For each day of soil sampling, one lab-prepared trip blank will be submitted with samples.</p>

Sampling Matrix	Locations, depths and number of Samples	Sample Collection Methodology	DNREC-SIRS Lab Screening	HSCA Laboratory Analysis	Comments/Justification
Groundwater	Four of the eight soil boring locations will be converted into permanent monitoring wells and installed to intercept the shallow, unconfined groundwater aquifer. A maximum drilling depth of 25 feet per well location is anticipated.*** The wells will be constructed using 10 feet of 0.020 slot, 3/4-inch diameter Schedule 40 PVC well screen and designed so that approximately 2 to 3 feet of the well screen casing extends above the anticipated depth of the water table. Riser pipe will be constructed with up to 20 feet of Schedule 40, 3/4-inch PVC well casing. The wells will be grouted from the top of the gravel pack to the ground surface. The wells will be finished with locking expandable caps and flush-mount well covers.	<p>One groundwater sample will be collected from each of the four newly-installed monitoring wells as well as the four existing monitoring wells on the Site. The sample collected for TAL metals analysis will be field-filtered using a 0.45 micron filter, constituting the dissolved metals sample.</p> <p>The monitoring wells will be installed and the samples will be collected in accordance with the following:</p>	<p>No screening of groundwater samples is proposed.</p> <p>Groundwater samples that are submitted to Test America will be analyzed using EPA SW-846 methodologies for all of the following:</p> <ul style="list-style-type: none"> <li>- TCL VOCs,</li> <li>- TCL SVOCs,</li> <li>- TCL Pesticides</li> <li>- PCB Homologs; and</li> <li>- TAL Dissolved Metals.</li> </ul>	<p>Groundwater samples will be analyzed in accordance with DNREC, 2008, "Standard Operating Procedures for Chemical Analytical Programs under the Hazardous Substance Cleanup Act" (SOPCAP), Version 5.0 Rev. 7.</p> <p>Groundwater samples that are submitted to Test America will be analyzed using EPA SW-846 methodologies for all of the following:</p> <ul style="list-style-type: none"> <li>- TCL VOCs,</li> <li>- TCL SVOCs,</li> <li>- TCL Pesticides</li> <li>- PCB Homologs; and</li> <li>- TAL Dissolved Metals.</li> </ul>	<p>*** Sampling and analysis of groundwater from depths greater than 25 feet below ground surface will be addressed following the receipt and evaluation of shallow groundwater data.</p> <p>USEPA, 1987, <i>A Compendium of Superfund Field Operations Methods</i>.</p> <p>DNREC DWR, 1997, <u>Delaware Regulations Governing the Construction and use of Wells</u>.</p> <p>Low-flow sampling Method</p>

Sampling Matrix	Locations, depths and number of Samples	Sample Collection Methodology	DNRFC-SIRS Lab Screening	HSCA Laboratory Analysis	Comments/Justification
	Approximately eight groundwater samples will be collected from the four existing monitoring wells and four newly-installed monitoring wells.	by USEPA 1996-“Low-Flow (Minimal Draw-down) Ground-Water Sampling Procedures.”			
		One (1) set of QA/QC samples will be collected per batch of samples (i.e. 20 samples or less). This will include a matrix spike, a matrix spike duplicate, and a duplicate.			
		For each day of groundwater sampling, one lab-prepared trip blank will be submitted with samples.			
Soil gas (vapor intrusion related)	None proposed.				
Sediment	None proposed.				
Surface Water	None proposed.				

## 2.0 Proposed Sampling Location Maps

Figure 1 – Overview Map

Figure 2 – Sampling Location Map

EXHIBIT 3

EXHIBIT "B"

SCHEDULE

- |    |   |  |
|----|---|--|
| 1. | DNREC – Respondent Startup Meeting -  | Ten (10) days from date of execution of the Agreement and Approval of the CSM and SAP          |
| 2. | Permit Approvals -  | Thirty (30) days from date of startup meeting  |
| 3. | Filed work for well installation and - well and soil sampling   | Thirty (30) days from date of Permit approvals   |
| 4. | Laboratory analysis and results -   | Twenty (20) days from completion of field work.  |
| 5. | Evaluation of sampling results and performance of risk assessment – submission of VCP draft report to DNREC | Twenty (20) days from completion of laboratory analysis and results.                           |
| 6. | Finalize VCP report -   | Ten (10) days from date of final comments from DNREC on draft VCP report                       |
| 7. | Prepare and submit draft LTS plan - to DNREC  | Thirty (30) days from date of DNREC approval of VCP report.                                    |
| 8. | Finalize LTS plan -   | Five (5) days from date of final comments from DNREC on draft LTS plan.                        |
| 9. | Prepare and submit request for COCR -   | Five (5) days from final approval of remedial action and filing of any required UECA covenant. |

EXHIBIT 3